EARLY COMMUNICATION INSTALLATION NODE 1

OBJECTIVE:
Installation of Early Communication (Early Comm) System

LOCATION:
Installed: NOD1S4
Stowed: Shuttle Airlock

DURATION:
70 minutes

PARTS:
Early Comm Plate Assemblies and Cables (P/N 684-10276)

MATERIALS:
Tape, Ziploc Bags

TOOLS REQUIRED:
35mm camera

Shuttle Tools:
Locker Drawer #1:
- Multimeter Kit

Locker Drawer #2:
- Connector Pliers

Locker Drawer #3:
- Ratchet 1/4" Drive
- 1/4" to 3/8" Adapter
- 6" Ext., 1/4" Drive
- 4" Ext., 1/4" Drive
- 7/16" Socket, 3/8" Drive
- 3/16" Hex Head Driver, 3/8" Drive
- 5/32" Hex Head Driver, 3/8" Drive
- (30-200 in-lbs) Trq Wrench 1/4" Drive

Locker Drawer #4:
- 7/16" Combination Wrench

SAFE

1. Verify Op RPCs for RPCM N1RS1 C
   PCS nav: Node 1: EPS: RPCM N1RS1 C
   [RPCM N1RS1 C]

   sel RPCM [N] DETAILS [N] = [5], [6], [12], [13]

   √RPC [N] Position - Op
   √RPC [N] Close Cmd - Inh

   Repeat

2. Verfiy Op RPCs for RPCM N1RS2 A
   PCS nav: Node 1: EPS: RPCM N1RS2 A
   RPCM N1RS2 A

   sel RPCM [N] DETAILS [N] = 5 , 6 , 10 , 11

   √RPC [N] Position - Op
   √RPC [N] Close Cmd - Inh

   Repeat

UNSTOW

3. Obtain Early Comm hardware and tools from stowed location in Shuttle. Translate them to the Node starboard rack position.

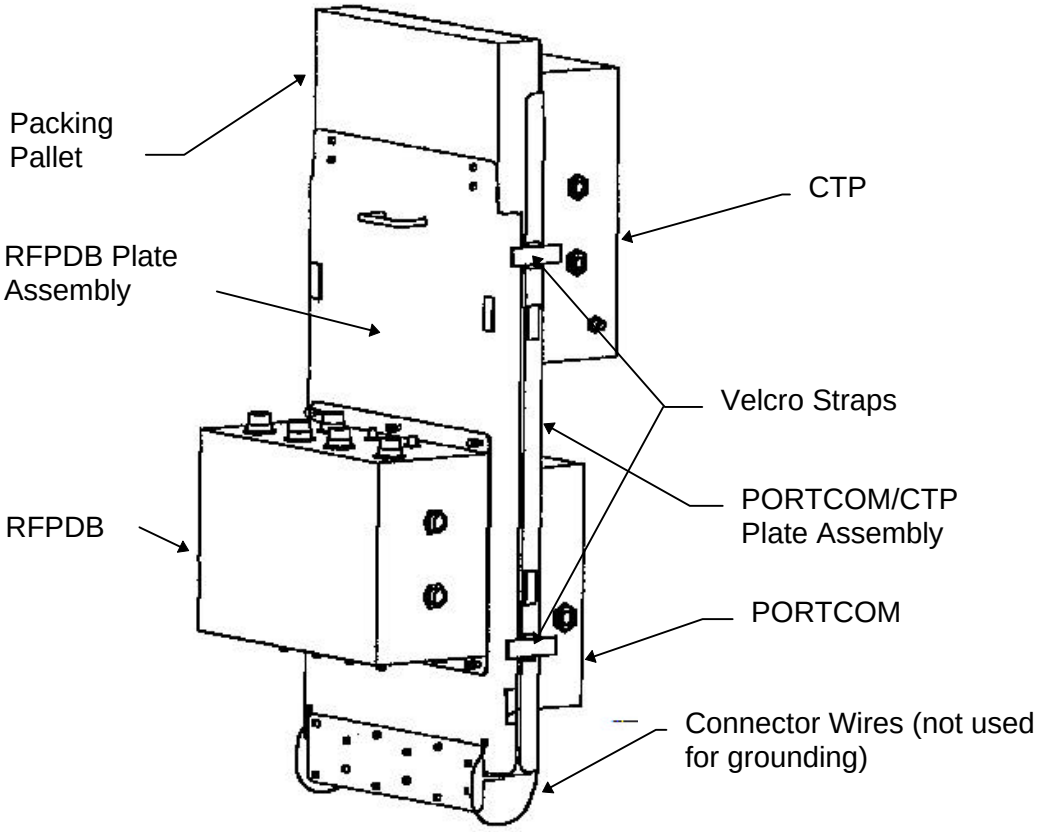

Figure 1.- Early Comm hardware in stowed configuration.

4. Remove Starboard rack Closeout Panel(s). Temporary stow panel(s).

5. Remove plate assemblies from stowage bag.
   Unfold pre-integrated cables and position out of way.

6. Release Velcro straps on both sides of plate assemblies (four). See Figure1.

7. Unfold plate assemblies from stowed position. Temporary stow packing pallet.

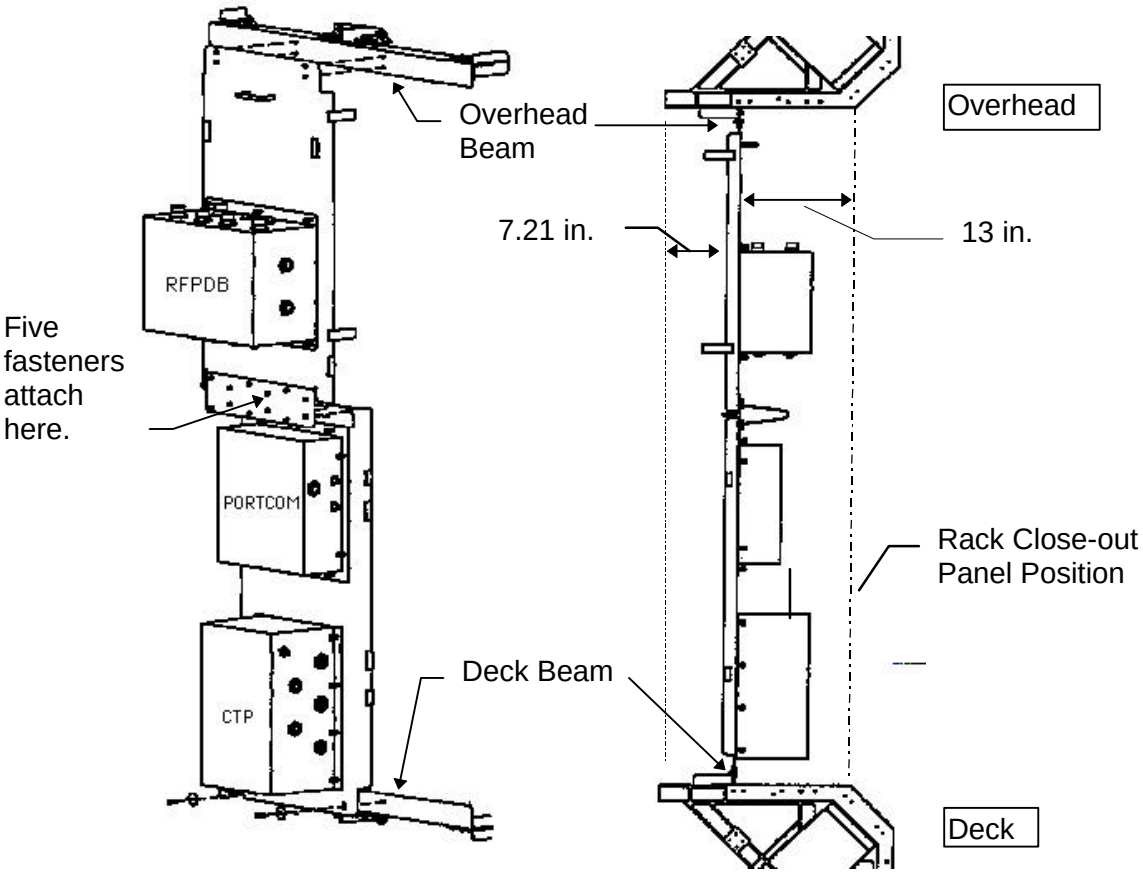

Figure 2.- Exploded and installed side view of Early Comm assembly.

NOTE
Install bolts and fasteners prior to torquing.

8. Attach RF Power Dist Box (RFPDB) plate to the PORTCOM/CTP plate, tighten fasteners (five), (Ratchet 1/4" Drive, 1/4" to 3/8" Adapter, 3/16" Hex Head Driver, 3/8" Drive, 6" Extension). See Figure 2.

INSTALL

9. Attach RFPDB end of plate assembly to Overhead beam. Snug fasteners (four) (Ratchet 1/4" Drive, 1/4" to 3/8" Adapter, 3/16" Hex Head Driver, 3/8" Drive, 6" and 4" Extension). See Figure 2.

NOTE
The two bolts used to secure the PORTCOM/CTP end of the assembly are stored on that plate.

10. Remove stowed bolts from PORTCOM/CTP plate.

11. Attach PORTCOM/CTP end of plate assembly to Deck beam and snug bolts (two) (Ratchet 1/4” Drive, 1/4” to 3/8” Adapter, 7/16” Socket, 6” and 4” Extension). See Figure 2.

12. Torque fasteners (four) on Overhead beam to 43 in-lbs (1/4” to 3/8” Adapter, 3/16” Hex Head, 4” Extension, (30-200 in-lbs) Trq Wrench).

13. Torque bolts (two) on Deck beam to 43 in-lbs (1/4” to 3/8” Adapter, 4” and 6” Extension, (30-200 in-lbs) Trq Wrench).

14. Install grounding straps and check bond with multimeter TBD.

15. Remove Closeout Panels NOD1OS2-27, NOD1SD2 (22,23) (starboard hatch overhead and deck), 5/32” internal hex fasteners (three). (Ratchet 1/4” Drive, 5/32” Hex Head, 1/4” to 3/8” Adapter).

NOTE
Refer to Figure 3 for steps 16 --- 29.

Figure 3. TBD

16. Secure all cables to secondary structure using pre-integrated Velcro before connection.

STARBOARD DECK BULKHEAD CONNECTORS

17. W0143 (EO), P85 ←|→ J85

18. Remove cap from JE85 and install on J85.

19. W0143 (EO), P85 →|← JE85, NV85/RFPDB1

20. W0205 (RF), P84 ←|→ J84

21. Remove Cap from JE84 and install on J84.

22. W0205 (RF), P84 →|← JE84, ND84/CTP3

STARBOARD OVERHEAD BULKHEAD CONNECTORS

23. W0144 (EO), P97 ←|→ J97

24. Remove cap from JE97 and install on J97.

25. W0144 (EO), P97→|← JE97, NV97/RPDB2

26. W0204 (RF), P96 ←|→ J96

27. Remove Cap from JE96 and install on J96.

28. W0204 (RF), P96 →|← JE96, ND96/CTP4

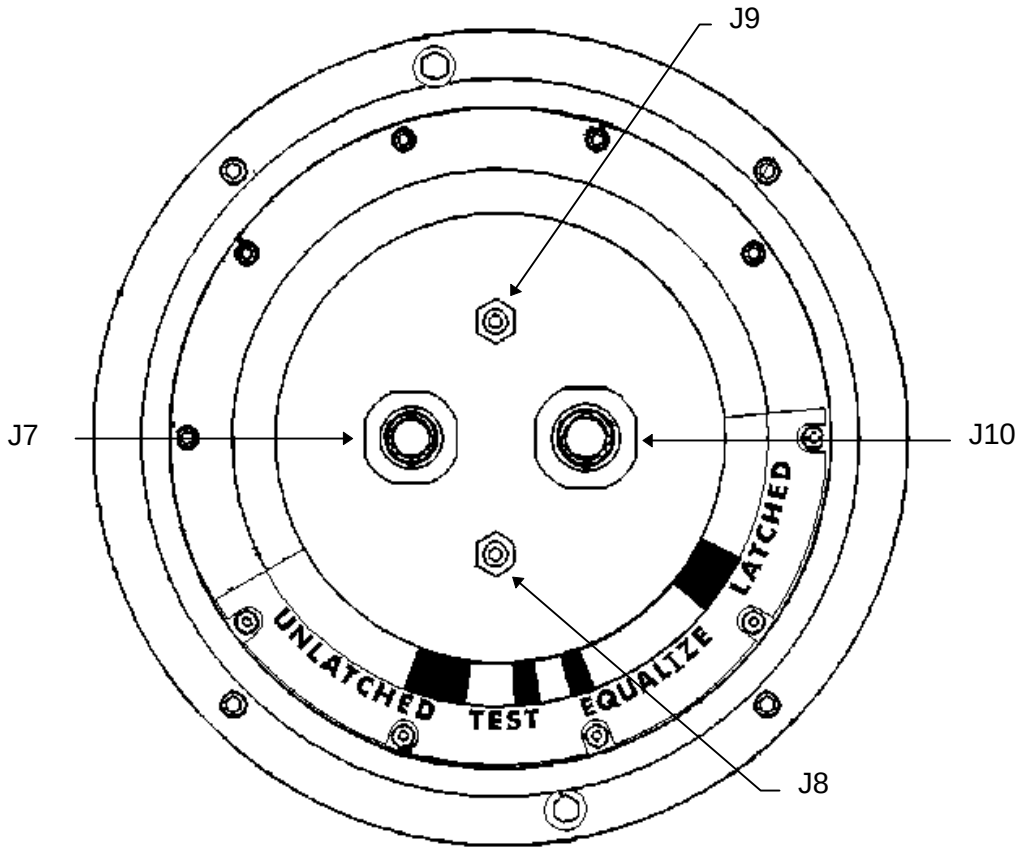

Figure 4.- Port and Starboard Hatch Plate.

HATCH PLATE CONNECTORS

Table 1.- Early Comm Hatch Plate Connections

CABLE	CONNECTOR PLUG	CONNECTOR JACK
Port Hatch		
PHP7/RPDB3	P7	J7
PHP8/RPDB12	P8	J8
PHP9/RPDB11	P9	J9
PHP10/RPDB16	P10	J10
Starboard Hatch		
SHP7/RPDB4	P7	J7
SHP8/RPDB14	P8	J8
SHP9/RPDB13	P9	J9
SHP10/RPDB17	P10	J10

29. Remove connector caps (sixteen), stow in Ziploc Bag, and mate connectors (eight) per Table 1 and Figure 4.

CLOSE-OUT

30. Replace Closeout Panels (starboard hatch overhead and deck). See step 15. TBD number of 5/32” internal hex fasteners (Ratchet 1/4” Drive, 5/32” Hex Head, 1/4” to 3/8” Adapter).

POST MAINTENANCE

31. Enable RPC Close Cmd for RPCM N1RS1 C
    PCS nav: Node 1: EPS: RPCM N1RS1 C
    RPCM N1RS1 C

    sel RPCM [N] DETAILS [N] = 5 , 6 , 12 , 13

    √RPC [N] Position - Op
    √RPC [N] Close Cmd - Enable

    Repeat

32. Enable RPC Close Cmd for RPCM N1RS2 A
    PCS nav: Node 1: EPS: RPCM N1RS2 A
    RPCM N1RS2 A

    sel RPCM [N] DETAILS [N] = 5 , 6 , 10 , 11

    √RPC [N] Position - Op
    √RPC [N] Close Cmd - Enable

    Repeat

33. Tape Ziploc Bag containing connector caps to Early Comm Plate Assembly.

34. Photo document after inspection prior to rack volume close-out.

35. Stow tools.

TBD 36. Take tools and supplies TBD back to the orbiter and stow.